UNDERSTANDING CONTEXTUAL INFLUENCES OF EXTERNALIZING BEHAVIORS IN CHILDREN IN OUT-OF-HOME CARE: THE INFLUENCE OF WORKERS AND FOSTER FAMILIES

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Children receiving out-of-home care show increased problems on a range of behaviors including externalizing behaviors. Despite a strong association between child externalizing and the experience of out-of-home care, there is large individual variation. Some of this increased risk may be associated with child-specific characteristics (e.g., age, gender) and some related to the context in which children live (e.g., biological relatedness to caregiver). Children in care face a unique set of circumstances where provision of care is directly affected by workers and foster parents. Therefore, children’s development may be influenced by the worker who oversees their care and the foster family in which they live. The current study utilizes a sibling design to examine whether children’s externalizing behaviors can be explained by differences between workers and foster families. We also examined the extent to which these processes can be explained by worker education, type of foster care placement, placement satisfaction and parental negativity. The Assessment and Action Record (AAR) data from the Ontario Looking after Children project (OnLAC) collected in 2007-2008 were analyzed. The sample included data from 1,160 children between 10-17 years of age (M age=13 years, 8 months). Multiple informants (children, foster parents and workers) contributed to the measurement of most constructs.

1. **Worker, Foster Family- and Child-specific Effects.** Worker, foster family and child-specific effects explained why children showed different patterns of externalizing patterns. Specifically, differences between workers, foster families and children explained 9%, 21%, and 70% of the variance seen in children’s externalizing scores respectively.

2. **Worker Education.** Workers with less education were more likely to work with children with higher levels of externalizing behaviors.

3. **Type of Foster Care Placement.** Relative to children from regular foster care placements, children from kinship care displayed lower levels of externalizing behaviors and children from group care showed higher levels.

4. **Group home placement of children is associated with lower worker education and the effect of worker education on children’s externalizing is partially mediated by group home placement.**

5. **Satisfaction with Foster Care Placement.** The average level of satisfaction with foster care placement across the foster children within the family explained differences between foster families in the average level of children’s externalizing behaviors. When children were more satisfied with their placement, they showed less externalizing behavior. We distinguished between the satisfaction of an individual child and the satisfaction of all foster children in the family and the latter measure predicted children’s problems more strongly. This suggests that satisfaction with foster care placement is something that is shared between siblings and thus can be viewed as a family-wide process.

6. **Parental Negativity.** Ambient parental negativity, or the family average of child externalizing, was found to explain why children from the same foster family showed different levels of externalizing behaviors. After accounting for children’s own individual experience of parental negativity, higher levels of externalizing behaviors were associated with parents being negative to all children. Again, this suggests a family-wide process.

In summary, although children’s externalizing behaviors are mainly attributable to child-specific effects (70%), children did cluster as a function of worker (9%) and foster family effects (21%). Worker education accounted for some differences seen between workers (i.e., 11% of the variance at the worker level). Those with less formal education were more likely to work with more difficult children. This association is partially explained by group care. A disproportionate number of workers with lower formal education work with children who are placed in group care settings. Family-wide processes were also found to be associated with children’s externalizing behaviors. After accounting for children’s own unique experiences, foster families who had children who were less satisfied with their placement and those who displayed a higher average of parental negativity were also more likely to care for children with higher levels of externalizing problems. These family-wide processes explained between family differences in children’s externalizing behaviors. Although it is difficult to distinguish between assignment (some workers/foster families may be assigned more or less difficult children) and causal influences (workers/foster parents change children’s behavior), results suggest either that some workers are unfairly burdened or that workers vary in their efficacy in dealing with children. Future research is required to differentiate between these different directions of effect.
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Understanding Contextual Influences in Externalizing Behaviors in Children in Out-of-home Care: The Influence of Workers and Foster Families

Across Canada, approximately 67,000 children experience out-of-home care (Mulcahy & Trocme, 2010) per year. These children show increased problems on a range of behaviors including externalizing behaviors. It has been estimated that 42% of children in care fall within the clinical range for externalizing behaviors (Keil & Price, 2006) and group comparisons of these children with those living with biological parents have consistently revealed that children in care show significantly higher rates of child externalizing (e.g., Lawrence, Carlson, & Egeland, 2006, see Keil & Price, 2006 for a review). This is particularly concerning since children in care with higher rates of hard-to-manage behaviors are also more likely to experience placement disruptions that further increase their risk of problematic behaviors (e.g., Newton, Litrownick, & Landsverk, 2000).

Despite a strong association between child externalizing and the experience of out-of-home care, there is large individual variation. Some of this variation is attributable to characteristics of individual children. Indeed, existing studies have demonstrated that younger relative to older children, boys relative to girls, and children with lower cognitive ability are more likely to show higher levels of externalizing behaviors (Attar-Schwartz, 2008; Proctor, Skriner, Roesch, & Litrownik, 2010; Rosenthal & Curiel, 2006). Moreover, unique child experiences also appear to relate to child externalizing. For example, children who have experienced a higher number of foster-care placement disruptions (Aarons, James, Monn, Raghavan, Wells, & Leslie, 2010; Oosterman, Schuengal, Slot, Bullens, & Doreleijers, 2007), sexual abuse (Pears, Kim, & Fisher, 2008; Tarren-Sweeney, 2008), and harsh or authoritarian parenting (Jaffee, Caspi, Moffitt, Polotomas, & Taylor, 2007; Perkins-Mangulabnan & Flynn, 2006) display more problematic behaviors relative to those who were not exposed to these risks.

Aside from child-specific factors, it is also possible that individual variability in externalizing can be accounted for by the contexts in which children live. A number of foster-parent characteristics have been found to relate to higher levels of externalizing behaviors. Foster parents such as those who experience more health concerns (e.g., Tarren-Sweeney, 2008) and have no biological-relatedness to the child (e.g., Holtan, Ronning, Handergard, & Sourander, 2005) are more likely to care for children with higher externalizing scores. Moreover, there is some evidence to suggest that the neighborhood in which children live can also influence externalizing outcomes. Higher levels of externalizing were associated with children living in neighborhoods characterized by low social cohesion and informal social control (Jaffee et al., 2007).

Understanding Child Outcomes from a Multilevel Perspective

Taken together, it appears that both child-specific and contextual factors are associated with externalizing behaviors of children in care. These results raise important questions about how different factors operate together in their association with children’s externalizing behavior. Perhaps this can best be understood through an ecological perspective. According to Bronfenbrenner (1979), development occurs within a multilevel framework where children are directly or indirectly influenced by different environmental factors that are embedded within multiple layers of their social context. Factors located in layers closest to the child (e.g., family factors) are assumed to have stronger influences on development than more distal factors such as communities, agencies, and schools.

Understanding the extent to which children cluster in their behavior within families, communities or schools informs us about how to target policy, programs and organize service delivery. For instance, if a study found that most of the variance in children’s externalizing behavior occurs
because of differences between schools (i.e. children cluster within schools and some schools have much higher rates of problems than other schools), then it makes sense to either examine school processes that may influence child behavior or examine school assignments that may explain why more difficult children get assigned to one school rather than another. Targeting interventions to either children or families would not be of much value given that all the variance is occurring between schools. Multilevel studies are of value because they show us the way in which variance is partitioned across multiple contexts in which children grow-up.

To date, there have been several studies that have adopted a multilevel perspective in understanding child outcomes in children in care. Drawing on national data from the United States, Rosenthal and Curiel (2006) examined externalizing behaviors in children in care. Results suggested that after accounting for time of measurement, children clustered as a function of both child- and agency-specific effects. Similarly, multilevel data drawn from an Israeli sample replicated earlier findings where 12% of the variance in children’s externalizing behaviors was explained by agency-specific effects (Attar-Schwartz, 2008). Moreover, there is also preliminary evidence to suggest that worker effects also account for differences in child outcomes such as length of time in care (Ryan, Garnier, Zyphur, & Zhai, 2006).

Results from these studies suggest that developmental processes of children placed in out-of-home care can be conceptualized within a multi-level framework. Emerging evidence suggests that child outcomes, particularly that of externalizing behaviors is influenced by agency, worker or child-specific effects. None of these studies, however, have included the family as an influence. Families have been found to be central in understanding children’s outcomes. Rasbash, Leckie, Pillinger, & Jenkins (2010) found that 41% of the variance in change in school achievement between 11 and 16 years of age was attributable to the family and Jenkins, Simpson, Dunn, Rasbash, & O’Connor (2005) found that between 15-40% of the variance in children’s behavior problems was explained by family membership. Children in care face a unique set of circumstances where their care is monitored and provided by foster parents as well as workers. Therefore, children’s development may be influenced by the foster family in which they live, while simultaneously being influenced by the worker who also cares for them. By modeling the simultaneous effects of workers, and foster families, we can gain a better understanding of the role of children’s contexts, particularly the family, in their development.

To examine the influence of the foster family on children’s externalizing behaviors, worker and foster family influences need to be considered simultaneously. Nested data structures, such as children nested within workers and within foster families, pose some unique analytical considerations. Traditional statistical methods (e.g., standard regression analysis) cannot adequately manage interdependency between participants. Multilevel modeling techniques have been developed to analyse hierarchical data structures in which multiple units are nested within a higher order unit (e.g. children within families). Often, however, children’s contexts are more complicated than a simple hierarchical structure and cross-classified models were developed for these more complex structures (Rasbash & Goldstein, 1994). For instance, when we have multiple children-in-care living in the same foster family then children are nested within families. However, families and workers are crossed as children within the same foster family may be looked after by different workers. Cross-classified models allow us to partition variance into worker, foster family and child-specific sources of influence while accounting for the cross-over between workers and foster families.

A cross-classified multilevel model allows for two types of effect. It allows us to partition variance as a function of different contextual influences (described above), but it is also allows us to try to explain this variance through measured predictor variables. For the current study, we are interested in examining the extent to which worker characteristics (i.e., worker education) and
family-level processes (i.e., type of foster care, satisfaction with foster care placement, ambient paternal negativity) explain variance in children’s externalizing behaviors.

**Worker Education**

Understanding the effects of worker education on child outcome is an emerging area in child welfare research. This is an important area of study since worker education may affect the nature, amount and quality of services children receive. For instance, workers with more formal training in child welfare may be better equipped to deal with work demands (Rittner & Wodarski, 1999) and often show better job performance relative to less educated peers (e.g., Franke, Bagdasaryan, & Furman, 2009). Thus, workers with more formal training may be better able to promote more adaptive behaviors in children in care despite individual differences between children and foster families.

To our knowledge, the relationship between worker education and children’s externalizing behaviors has not been examined. However, there are several reasons to suspect that worker education may be related to externalizing behaviors in children. Preliminary research suggests that workers with more formal training are more likely to work with children who spend less time in the child-welfare system (Ryan et al., 2006). Although not specifically related to externalizing behaviors per se, these observations suggest that higher worker education is associated with better child outcomes. Similarly, research from the childcare literature suggest that higher levels of caregiver education is related to higher quality of care and better outcomes in children (Weaver, 2002; see Fukkink & Lont, 2007 for a review).

**Type of Foster Care Placement**

Studies have consistently shown that when compared to children from regular foster-care placements, children from kinship homes have been found to show lower levels of externalizing behaviors (e.g., Holton et al., 2005; Lawrence, Carlson, & Egeland, 2006, Rosenthal & Curiel, 2006), although some inconsistencies have been noted (De Robertis & Litrownik, 2004). There is also some emerging evidence to suggest that youth who had experienced at least one group home placement were more likely to engage in delinquent behaviors (Ryan, Marshall, Herz, & Hernandez, 2008). These results suggest that type of foster care placement may influence children’s externalizing behaviors.

**Placement Satisfaction: Family Average of Placement Satisfaction and Differential Placement Satisfaction.**

Research examining the relationship between placement satisfaction and child outcome is relatively sparse. However, research does suggest that children’s placement satisfaction change as a function of type of placement (Wilson & Conroy, 1999) and time (Merritt & Franke, 2010). One could argue that children’s satisfaction with their placement may be closely related to placement permanency since more placement satisfaction would suggest greater likelihood for placement permanency. To date, studies have generally demonstrated an association between externalizing behaviors and placement permanency where higher levels of externalizing behaviors results in a greater likelihood for placement disruptions (e.g., Hussey & Guo, 2005; see Oosterman, et al., 2007 for a review). There is also general consensus that there is a bi-directional influence of placement permanency where placement instability acts as both a cause and consequence of problematic behaviors (e.g., Aarons et al., 2010). Given the robust finding that placement permanency is predictive of child externalizing, it is likely that similar associations exist between placement satisfaction and externalizing behaviors. In the present study the goal was to control for
Ambient and Differential Experiences of Parental Negativity

Children who are exposed to parental negativity have been found to display higher levels of externalizing behaviors. This is consistent for children living with biological parents (Chang, Schwartz, Dodge, & McBride-Change, 2003) and those previously exposed to maltreatment (e.g., Maikovich, Jaffee, Odgers, & Gallop, 2008). However, despite our understanding of how expressions of negativity directed to individual children influence externalizing behaviors, our understanding of how exposure to negativity within the foster family affects adjustment is limited. Drawing on research from developmental psychopathology, ambient parental negativity, or the family average of parental negativity, has been found to predict differences between families in children’s externalizing behaviors (Jenkins, Cheung, Frampton, Rasbash, Boyle, & Georgiades, 2009). Specifically, children from families with higher levels of ambient parental negativity are more likely to show higher levels of externalizing behaviors. In the present study the goal was to control for the level of negativity directed to specific children, while simultaneously examining the role of ambient parental negativity.

Goals of the Current Study

In summary, we tested the following hypotheses. 1) There will be significant variance at the family and worker levels, with family variance accounting for a higher proportion of the variance than worker variance, 2) worker education will explain between worker variance in children’s externalizing, and 3) family-wide processes and characteristics such as type of foster care placement, family average of placement satisfaction and ambient parental negativity will explain variance between families.

Methods

Participants

Assessment and Action Record (AAR) data from the Ontario Looking after Children (OnLAC) project were analyzed. The OnLAC project is an ongoing assessment of the needs and developmental outcomes of children and youth in foster care across Ontario. The AAR tracks and monitors the developmental trajectories of children and youth in care across seven developmental domains; health, education, identity, family and social relationships, social presentation, emotional and behavioral development and self-care skills and transition to young adulthood.

Each society-specific OnLAC dataset is managed by individual Children’s Aid Societies and consent from each society to use their dataset was obtained. Recruitment of interested Children’s Aid Societies was coordinated and facilitated through a child-welfare association that governed province-wide research. A detailed description of the study was presented to the OnLAC steering committee and all Children Aid Societies were invited to participate. Of the 50 societies across the province, 12 (24%) agreed to participate. These societies represent those from both urban (n=9) and rural (n=3) communities. Each AAR was completed by workers, foster parents and children. The AAR was administered verbally to foster parents and children by workers over several sessions. Foster parents and children were interviewed together and their responses were recorded. Worker-specific questions were completed by workers privately or during foster parent/child interview sessions.
The sample used in the current analysis included data collected in 2007-2008 of children in care \((n=1,160)\). Children ranged between 10-17 years of age \((M=13\ \text{years, 8 months})\), with more girls \((n=719)\) than boys \((n=441)\). Children under the age of 10 years were excluded from the current analysis because important child-reported measures were not collected for this age group. Children spent between 0 years to 17 years under the care of the child-welfare system \((M=7\ \text{years, 1 month})\) and their length of stay with their current foster care placement ranged between 0 years to 17 years \((M=3\ \text{years, 5 months})\). Most children in the sample have experienced at least one form of abuse and/or maltreatment where 35%, 13%, 60%, 41% experienced physical, sexual, neglect and emotional harm respectively. Children were primarily placed in regular foster \((n=865)\), with a small number of children in kinship \((n=91)\), group \((n=107)\), or specialized care \((n=97)\). Comparisons across groups suggested that all children in the sample spent similar amounts of time in the child-welfare system, \(F(3,1153) = 1.26, p = \text{n.s.}\) Similarly, there were no difference in the amount of abuse and/or maltreatment these children experienced, \(F(3,1033) = 1.50, p = \text{n.s.}\).

**Estimating Children’s Worker- and Foster Family Membership**

Although the AAR includes worker- and foster parent-specific information, it does not explicitly identify workers working with multiple children or families fostering multiple children. To achieve the nested structure required to simultaneously examine worker- and foster family effects, children’s worker and foster-family membership were estimated.

Foster children working with the same worker were identified by cross-referencing worker-specific variables. Children were identified as having the same workers if their worker had the same initials and matched on seven key items such as education, length of time in child welfare, amount of training and field of education. The same worker ID was assigned to children who shared the same worker. There were 523 workers in the sample, 238 (45%) of which worked with multiple children in the agency.

Similarly foster children living within the same families were identified by cross-referencing foster parent-specific variables. Children were identified as foster siblings living in the same foster family if foster parents had the same initials and matched on 27 key items such as gender, health, training, smoking and religiosity. The same family ID was assigned to children from the same foster family. The majority of foster families cared for one foster child \((n=831)\) with a small number of families fostering multiple children \((n=146)\).

**Measures**

**Children’s Externalizing Behaviors**

Children’s externalizing behaviors were assessed by workers, foster parents and children. For children between 10-15 years of age, workers, foster parents and children reported on their externalizing behaviors. However, self-reports were not available for children between 16-17 years of age.

Workers were asked to report the extent to which the target child was free of serious emotional and behavioral problems. Possible responses ranged from 1 (no problems) to 4 (serious problems exist which need specialized assistance). Although this measure did not explicitly assess children’s externalizing behaviors, higher scores reflected more difficulties. Foster parents were asked to complete five items from the conduct subscale of the Strengths and Difficulties Questionnaire (Goodman, Ford, Simmons, Gatward, & Meltzer, 2000). Example of items included ‘often fights with other children or bullies them’ or ‘often loses temper’. Possible responses ranged from 1 (not
true) to 3 (true). Positive items were reverse coded so that higher scores reflected more difficulties. Same questions were used to assess externalizing behaviors for children between 16-17 years of age. Children between 10-15 years of age also reported on how frequently they displayed physical aggression (e.g., I physically attack people) and committed property offences (e.g., I steal at home). All measures are drawn from existing instruments that have been widely used in epidemiological studies in Canada (NLSCY, 1999). Children responded on six items on a 3-point scale that ranged from 1 (never or not true) to 3 (often or very true). Higher scores reflected more externalizing behaviors.

For children between 10-15 years of age, a composite mean score of children’s externalizing behaviors was created from worker, foster parent and child reports. Items across all measures were standardized and showed high internal consistency, $\alpha = .86$, with the exception of one item from foster parent reports (i.e., ‘generally well behaved, does what adults request’). This item was subsequently removed and a mean score was created based on remaining items. For children between 16-17 years, the same parent item was omitted and parent and worker reports were combined. This measure showed satisfactory internal consistency, $\alpha = .72$.

**Child Age and Gender**

Children’s age and gender was obtained from children’s records. Child age was coded in years. Boys were coded as 0 (reference category) and girls were coded as 1.

**Type of Foster Care Placement**

Child welfare workers were asked to indicate whether children were placed in regular foster, kinship, group home or specialized care. Each care category was dummy coded so that ‘no’ was coded as 0 (reference category) and ‘yes’ was coded as 1.

**Placement Satisfaction: Family Average of Placement Satisfaction and Differential Placement Satisfaction**

Children’s placement satisfaction was assessed with the Placement Satisfaction scale. Reliability and validity of the scale has been demonstrated by previous research (Flynn, Robitaille, & Ghazal, 2006). Children were asked to report their satisfaction with their current foster care placement. The Placement Satisfaction scale consisted of six items rated on a 3-point scale ranging from 1 (very little) to 3 (a great deal). Examples of items include ‘would you say that you like living here’ or ‘would you say that you feel safe living in this home’. Higher scores indicated a greater level of satisfaction with the current foster care placement.

All items demonstrated high internal consistency, $\alpha = .84$. A mean score assessing placement satisfaction was created. A family average score was created for each foster family. For multiple children from the same foster family, a family mean was taken across all foster siblings (i.e., all children were given the same score). For singletons, their family average scores were the same as their mean scores. Higher family average scores indicated higher levels of placement satisfaction within the foster family. Deviation scores, comparing children’s unique rating of placement satisfaction relative to their siblings was created by subtracting children’s mean score from the family average. Negative scores suggested more placement satisfaction relative to siblings and positive scores reflected less placement satisfaction.
Ambient and Differential Parental Negativity

A measure of ambient parental negativity was created and was operationalized as the mean score of foster parents’ report of conflict resolution and children’s report of ineffective parenting. Both foster parent and child measures show well established reliability and validity and are drawn from existing parenting instruments that have been widely used in epidemiological studies in Canada (NLSCY, 1999).

Foster parents responded on eight items that assessed how often they disagreed with the target foster child (e.g., we disagree and have agreements) or used negative conflict resolution strategies (e.g., when we disagree, I refuse to talk to him/her). Possible responses ranged from 3 (pretty often or almost all the time) to 1 (a little or not at all). All positive items were reverse coded so that higher scores reflected more negativity between parent-child dyads. Similarly, foster children were asked to report the extent to which they experienced ineffective parenting from foster parents. Children were asked to respond on six items that assessed the frequency of parental negativity (e.g., my foster parent gets angry and yells at me) and inconsistent parenting (e.g., my foster parent enforces a rule or don’t enforce a rule depending on their mood). Possible responses ranged from 3 (often or always) to 1 (rarely or never) with higher scores reflecting more ineffective parenting.

Responses across foster parent and child items were standardized and a Cronbach’s alpha of .74 suggested that the internal consistency between 13 of the 14 items were high (i.e., ‘we make up easily when we have a fight’ was removed). A composite mean score measuring the extent to which children from the same foster family were exposed to parental negativity was created based on 13 items (items with the highest internal consistency). A family average of parental negativity was created for each foster family. For multiple children from the same foster family, a family mean was taken across all foster siblings (i.e., all children were given the same score). For singletons, their family average scores were the same as their composite mean scores. Higher family average scores indicated more parental negativity. A deviation score, representing children’s own exposure to parental negativity was created by subtracting children’s mean score from the family average. Positive scores represented less exposure to parental negativity relative to siblings whereas a negative score indicated more exposure.

Worker Education

Workers were asked to indicate their highest level of education. Possible responses ranged from “less than a high school diploma” to “doctoral degree”. There were nine responses in total. All categories were dummy coded where “doctoral degree” was coded as a 9 and "less than a high school diploma" was coded as a 1 so that higher scores reflected higher education attainment.

Analysis Description and Plan

Multilevel modeling was used to examine the simultaneous influence of worker- and foster family-effects on children’s externalizing behavior. The nested data structure was analysed with a cross-classified, multi-level model (Rasbash, Browne, Healy, Cameron, & Charlton 2005) to account for the within cross-classification of workers and foster families (within the same family, multiple workers could be working with multiple children). This model allowed us to partition variance found in children’s externalizing scores into between-worker, between- family and child-specific variance levels. MLwiN 2.20 was used to conduct the analysis (Rasbash et al., 2010). Cross-classified models were estimated with Markov Chain Monte Carlo (MCMC) procedures in MLwiN. MCMC is drawn from Bayesian statistics and are simulation-based procedures. Rather than simply producing point estimates (e.g., maximum likelihood estimates), MCMC uses multiple iterations
(e.g., 5000) to generate estimates for each unknown parameter. A new estimate is generated with each iteration and estimates from the last iteration are then used to produce new estimates. The aim of the approach is to generate a sample of values from the posterior distribution of the unknown parameters (see Browne, 2009 for review). The MCMC method also considers missing data as additional parameters in the model and includes these parameters during the estimation of data during each iteration. Essentially, the MCMC method is generating values at each iteration for missing data. Thus, with MCMC, imputation of missing data is simultaneously occurring as estimates are generated.

The between-worker variance level represents the extent to which workers differed from one another on children’s average externalizing scores. Similarly, the between-family level variance speaks to differences between foster families on the family average of children’s externalizing scores and represents the extent to which siblings within the same family are similar to one another. Lastly, child-specific variance refers to differences between siblings within the same foster family and speaks to sibling dissimilarity. Higher values at these different levels indicate greater differences between workers, foster families and siblings respectively. The variance partitioning coefficient represents the proportion of variance attributable to the cross classification (e.g. family level variance/total variance represents the variance partitioning coefficient for family effects).

Variables expected to predict children’s externalizing behaviors are categorized as worker-, and foster family-specific predictors. Worker-specific predictors are those that are specific to individual workers and all children under the care of the same worker will receive the same score (i.e., worker’s education). Foster family-specific predictors are those specific to each foster family and all children living within the same family will receive the same score (e.g., ambient parental negativity). Lastly, child-specific predictors are those specific to each child within the foster family and each child will receive the same score. In the current study, child-specific predictors will be included in the model as covariates to account for child-specific effects before examining family-level effects.

The impact of different worker- and foster family-specific predictors on children’s externalizing scores will be assessed with increasingly complex models. Model 1, also known as the null model, will have no predictors. This model will allow us to see the percentage of variance attributable to each of these levels. Model 2 will include specialized care as a covariate to account for the possibility that children in specialized care represent a unique group who have been placed in treatment care because they experience more difficulties relative to those in kinship, regular foster and group care. In Model 3, worker education will be entered to examine the extent to which between-worker differences in children’s externalizing are attributable to worker training. To examine whether type of foster care placement adds to the prediction of children’s externalizing behaviors, different categories of foster care placement (e.g., kinship care) will be entered into Model 4. Since child age and gender have been found to both relate to externallyizing behaviors, Model 5 will account for these effects prior to looking at influences of family-level processes. Model 6 will examine the influence of family average of placement satisfaction on child externalizing. Children’s own satisfaction with current placement will also be entered to control for these child-specific effects. Lastly, Model 7 will examine the effects of ambient parental negativity on children’s externalizing behavior while accounting for children’s own exposure to parental negativity. Both ambient parental negativity and children’s deviation score will be entered into the model.

**Results**

Model 1, the null model, has no predictors. It partitions variance in children’s externalizing scores into three sources of variance estimates: between-worker, and within- and between family (refer to Table 1). The between-worker variance indicates the degree of dissimilarity seen between workers
Table 1: Between worker and within- and between-family variance estimates in the prediction of externalizing behaviors in children in care (N=1,160)

<table>
<thead>
<tr>
<th>Fixed Part</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
<th>Model 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.017 (0.023)</td>
<td>-0.009 (0.023)</td>
<td>0.242 (0.095)</td>
<td>0.120 (0.101)</td>
<td>0.795 (0.164)</td>
<td>1.896 (0.239)</td>
<td>1.571 (0.242)</td>
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<td>Specialized Care</td>
<td>0.407 (0.084)</td>
<td>0.448 (0.086)</td>
<td>0.469 (0.084)</td>
<td>0.566 (0.085)</td>
<td>0.328 (0.094)</td>
<td>0.302 (0.101)</td>
<td></td>
</tr>
<tr>
<td>Worker Education</td>
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<td>-0.026 (0.016)</td>
<td>-0.030 (0.017)</td>
<td>-0.034 (0.016)</td>
<td>-0.029 (0.016)</td>
<td>-0.226 (0.069)</td>
<td></td>
</tr>
<tr>
<td>Kinship Care</td>
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<td>-0.201 (0.075)</td>
<td>-0.195 (0.070)</td>
<td>-0.226 (0.069)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Group Care</td>
<td>0.329 (0.075)</td>
<td>0.382 (0.075)</td>
<td>0.183 (0.078)</td>
<td>0.235 (0.078)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Age</td>
<td>-0.046 (0.009)</td>
<td>-0.045 (0.009)</td>
<td>-0.045 (0.009)</td>
<td>-0.045 (0.009)</td>
<td></td>
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<tr>
<td>Child Gender</td>
<td>-0.058 (0.044)</td>
<td>-0.066 (0.043)</td>
<td>-0.069 (0.043)</td>
<td></td>
<td></td>
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<tr>
<td>Placement Satisfaction:</td>
<td></td>
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<tr>
<td>Family Average</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.39 (0.057)</td>
<td>-0.28 (0.062)</td>
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<tr>
<td>Placement Satisfaction:</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.141 (0.162)</td>
<td>-0.278 (0.170)</td>
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<tr>
<td>Deviation Score</td>
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<tr>
<td>Ambient Parental Negativity</td>
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<tr>
<td>Differential Parental Negativity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.233 (0.042)</td>
<td></td>
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<tr>
<td>Variances</td>
<td></td>
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</tr>
<tr>
<td>Worker Level</td>
<td>0.041 (0.015)</td>
<td>0.036 (0.016)</td>
<td>0.032 (0.014)</td>
<td>0.033 (0.015)</td>
<td>0.03 (0.012)</td>
<td>0.026 (0.015)</td>
<td>0.022 (0.015)</td>
</tr>
<tr>
<td>Foster Family Level</td>
<td>0.094 (0.032)</td>
<td>0.09 (0.031)</td>
<td>0.084 (0.027)</td>
<td>0.073 (0.031)</td>
<td>0.075 (0.028)</td>
<td>0.053 (0.023)</td>
<td>0.061 (0.024)</td>
</tr>
<tr>
<td>Child Level</td>
<td>0.311 (0.032)</td>
<td>0.311 (0.031)</td>
<td>0.307 (0.030)</td>
<td>0.306 (0.032)</td>
<td>0.298 (0.029)</td>
<td>0.291 (0.026)</td>
<td>0.270 (0.025)</td>
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<tr>
<td>Change in model fit</td>
<td>13.24</td>
<td>69.092</td>
<td>19.744</td>
<td>24.074</td>
<td>153.33</td>
<td>71.54</td>
<td></td>
</tr>
<tr>
<td>$(\chi^2)$ from prior model to present; df's</td>
<td>1 1 2 2 2 2 2</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Notes: Italicized coefficients significant $p<.05$. * Changes in model fit significant at $p<.05$. 
or the similarity between children working with the same worker. The VPC at the worker level (proportion of between-worker variance divided by total variance) was .092 (.041/.446), suggesting that approximately 9% of the variance in children’s externalizing scores can be accounted for by differences between workers. This indicates a small degree of similarity in externalizing behaviors between children working with the same worker and suggests that some workers are more likely to work with more difficult children.

The between-family ICC captures the extent to which foster families are different with respect to children’s externalizing behaviors. Likewise it refers to similarity between foster children within the same family. Although we have included foster families caring for one child in our sample (i.e., within- and between-family variances cannot be differentiated), within- and between-family variances are estimated with data from families with multiple children. The between-family ICC (ratio of between-family variance vs. total variance) was .21 (.094/.446), suggesting that differences between foster families accounted for 21% of the variance in children’s externalizing behaviors. This indicates a degree of similarity in child externalizing between foster siblings within the same family. Lastly, within-family variance estimates indicate the degree of dissimilarity between foster siblings. The within-family ICC was .697 (.311/.424), suggesting that majority of the variance in children’s externalizing behaviors can be explained by unique characteristics and experiences of children within the same foster family (approximately 70%). Taken together, results suggest that although differences in externalizing behaviors are primarily attributable to child-specific effects, there is a degree of clustering that occurs as a function of both worker- and foster-family effects.

In Model 2, specialized care was entered into the model as a covariate (fixed effects). Results suggested that relative to those in regular foster care, those in specialized care showed higher levels of externalizing, $B=-.449$, $SE=.085$. The inclusion of specialized care into the equation explained 12% of the variance at the worker level. The degree of clustering within workers decreases (ICC = .082) after accounting for specialized care. This suggests that there may be an assignment effect where some workers may be more likely to work with children from specialized care.

Measured variables (fixed effects) were entered to explain between-worker and between-family variances. In Model 3, worker education was entered as a worker-specific predictor to explain between-worker variance. Worker education was found to be significantly associated with children’s externalizing behaviors. Specifically, workers with less education were more likely to work with more difficult children. The addition of this variable explained 11% of the variance at the worker level.

To examine the influence of type of care on child externalizing, type of foster care (regular foster care was the reference category) was entered into Model 4. Relative to those in regular foster care, children in kinship care displayed lower levels of externalizing behaviors, $B=-.210$, $SE=.073$. However, children placed in group care displayed higher levels of externalizing behaviors, $B=.329$, $SE=.075$. The addition of these variables into the equation explained 13% of the variance at the foster-family level, suggesting that differences in types of foster care placements explained why children from the same foster family showed different patterns of externalizing behaviors. Interestingly, the inclusion of group care into the model reduced the coefficient of worker education to non-significance. This suggests that the effect of worker education on children’s externalizing can be accounted for by group care. Thus workers with less formal education may be more likely to work with children with higher levels of externalizing behaviors because they are also more likely to work with children in group care.
Next, we examined the impact of foster family-level processes on children’s externalizing behaviors. To account for the effects of child age and gender, these child-specific predictors were entered into Model 5. Although gender was non-significant, results suggested that younger children showed higher levels of externalizing behaviors. For every year of age, child externalizing dropped by 0.046 ($B=-0.046$, $SE=0.009$).

Model 6 examined the influence of placement satisfaction on children’s externalizing behaviors. To this end, family average of placement satisfaction was entered into the model. Children’s placement satisfaction deviation scores were also included to account for child-specific experiences. Results showed that less placement satisfaction within the family was associated with more externalizing behaviors in children, $B=-0.390$, $SE=0.057$. The inclusion of this variable explained why children from the same foster family showed different externalizing patterns and accounted for 29% of the variance at the family level. Interestingly, children’s own perception of placement satisfaction was not significantly related to their externalizing behaviors. This suggests that placement satisfaction may be a family-wide influence.

Lastly, Model 7 examined the effects of ambient parental negativity on externalizing behaviors. Ambient parental negativity and differential negativity scores were entered. Results showed that both ambient parental negativity and differential negativity were significant predictors of children’s externalizing behaviors. Foster families with higher levels of ambient parental negativity were more likely to foster children with higher levels of externalizing behaviors, $B=-0.233$, $SE=0.042$. However, over and above the influence of ambient parental negativity, children exposed to more parental negativity relative to their siblings also displayed higher levels of child externalizing, $B=-0.443$, $SE=0.099$.

**Discussion**

Results from the current study suggest that children’s externalizing behaviors are influenced by worker, foster family and child-specific effects. Although differences are primarily attributable to child-specific influences, some of this variance is explained by differences between workers and foster families. These results align with existing research that has demonstrated the importance of the family on various child outcomes (e.g., Rashbash et al., 2010). More importantly, results from the current study suggest that when foster family influences are also considered, contextual factors may have a larger effect on child externalizing in children in care than previously thought. To date, existing research has found that contextual effects (e.g., agency effects) accounted for approximately 12% of the variance in children’s externalizing behaviors (e.g., Attar-Schwartz, 2008). However, current findings suggest that when worker and foster family effects are also considered, a relatively larger proportion of the variance is attributable to the environment. Combined, worker and foster family effects accounted for 30% of the variance in children’s externalizing behaviors.

It is also interesting to note that relative to foster family effects, the effects of the worker on children’s externalizing behaviors were smaller (workers had smaller variance partitioning coefficient). This suggests that compared to the foster family, workers may have a more indirect influence on children’s externalizing behaviors. Although highly speculative, perhaps workers indirectly influence externalizing behaviors by operating through the foster family. It may be possible that workers influence different family-level processes, which in turn, affects the development of externalizing behaviors in children. Although research examining the relationship between worker characteristics and family-level processes is limited, an exciting avenue for future research would be to examine possible mediating effects of family-level processes on worker effects.
It is possible to account for differences between workers and foster families using worker and foster-family level predictors. To this end, we examined the effects of worker education, type of foster care placement, family average of placement satisfaction and ambient parental negativity. Two interesting findings emerged. First, worker education appears to influence children’s externalizing behaviors but this effect can be partially accounted for by children in group care placements. Second, children’s externalizing behaviors are influenced by processes found within the foster family (i.e., type of foster care placement, family average of placement satisfaction and ambient parental negativity). These family-wide effects exist over and above those that are specific to each child within the family. In the following sections, each of these observations will be discussed.

_Influence of Worker Education on Children’s Externalizing Behaviors_

In the current study, worker education accounted for 11% of the variance seen at the worker level. Specifically, findings suggest that workers with less formal education were more likely to work with more difficult children. However, the association between worker education and child externalizing can be partially explained by a disproportionate number of less educated workers working with children in group care settings. Once the effect of group care is accounted for, the association between worker education and child externalizing becomes non-significant.

Given the cross-sectional nature of the current study, it is difficult to distinguish between assignment effects (workers may be assigned more or less difficult children depending on the level of their education) from causal influences (worker education change children’s behavior). However, results do suggest that some workers may be unfairly burdened with caring for children in group homes. Although highly speculative, perhaps these preliminary results reflect challenges and barriers to recruitment and retention where agencies located in more rural geographical locations have more difficulty hiring workers with a graduate-level education. This suggests that in addition to worker-level processes, it may also be important to consider agency effects. To date, the simultaneous influence of worker and agency effects on child externalizing has not been examined although there is evidence to suggest that children do cluster as a function of agency effects (e.g., Attar-Schwartz, 2008; Rosenthal and Curiel, 2006). Alternatively, more educated workers may be more resourceful at advocating for case assignment that involves less difficult children. Although highly speculative, perhaps there are differences between workers in how they manoeuvre organizational intake and assignment procedures.

Preliminary findings may also suggest that some workers vary in their efficacy in dealing with more vulnerable children. Perhaps more educated workers are more resourceful at increasing placement permanency in the children they care for. Thus, less enter group care settings resulting in better adjustment. Although highly speculative, workers with more formal education may be better at advocating for supports within the agency (e.g., supervision from supervisors) and community (e.g., community-based supports) so that provision of care for the child involves multiple stakeholders. To date, greater levels of informal supports have been shown to be associated with more positive parenting outcomes in vulnerable families (Lyons, Henly, & Schuerman, 2005). Perhaps similar processes also influence the quality of care workers provide children.

Clearly, future research, utilizing a longitudinal perspective is required to examine these issues more closely. Nevertheless, current results highlight the importance of considering worker effects when understanding externalizing behaviors in children.
Family-wide processes were also found to influence children’s externalizing behaviors. Relative to children in regular foster care, children in kinship care displayed lower levels of externalizing behaviors whereas those in group care showed higher levels. Furthermore, after accounting for children’s own unique experiences, foster families who had children who were less satisfied with their placement and displayed more parental negativity were also more likely to care for children with higher levels of externalizing problems. These family-wide processes explained why children from the same foster family showed different patterns of externalizing behaviors.

These findings generally support what has been previously reported by existing research. With respect to type of foster care placement, our results replicate previous research that has shown lower levels of externalizing behaviors in children in kinship care relative to those in regular foster care (e.g., Rosenthal & Curiel, 2006) and higher levels in children in group care (e.g., Ryan et al., 2008). Although future research is required to determine whether these are causal associations, current findings nevertheless suggest that differences across types of foster care placements are associated with children’s externalizing behaviors.

Findings also suggest that foster families with children who were more satisfied with their current placement displayed less externalizing behaviors. Interestingly, children’s own unique ratings of placement satisfaction did not appear to influence their externalizing behaviors. One can interpret the family average of placement satisfaction as a proxy for placement permanency where more placement satisfaction is related to more stable placements. This would suggest that rather than children’s own perception of placement permanency, placement stability within the family is a stronger predictor of children’s externalizing behaviors. Indeed, there is some evidence to suggest that foster family functioning may be related to child outcomes. For instance, higher levels of foster family functioning were related to lower levels of behavioral and emotional problems in foster children (see Orme & Buehler, 2001 for a review). Perhaps with a more stable family environment, children are able to achieve consistent care giving from both workers and foster families.

The influence of ambient parental negativity on children’s externalizing behaviors was also examined. By distinguishing between family-wide effects from those specific to individual children within the family, we were able to examine the effects of expressions of parental negativity within the family (i.e., ambient parental negativity) while accounting for expressions of negativity directed to individual children (i.e., child-specific). Results suggested that over and above the effects of differential parental negativity, the contextual influence of parental negativity also predicted children’s externalizing behaviors. Specifically, children who observed more negativity directed towards siblings were more likely to show higher levels of externalizing behaviors. These results align with previous research that has also documented the influence of ambient parental negativity on children’s externalizing behaviors (e.g., Jenkins et al., 2009). Perhaps families who operate in highly negative environments are less able to provide the necessary warmth, supports and structure that are required for better adjustment in children. To date, parental nurturance has been found to predict less frequent conduct disorder and indirect aggression in youth (Perkins-Mangulabnan & Flynn, 2006).

Limitations and Directions for Future Research

There are several caveats to be considered when interpreting findings. First, given the cross-sectional nature of the study, associations are correlational and do not speak to the causal relationship between variables. However, since the current study does account for child-specific experiences, it provides us with a more accurate assessment of the associations between worker and family-wide effects on child externalizing. Moreover, considering that children are
simultaneously influenced by worker, foster family and child-specific effects it is also important to understand how these factors operate together during development. Future research will be needed to examine the causal associations between factors and the possible interactive effects of worker, foster family and child-specific effects.

Second, despite the inclusion of multi-informant data, the process in which data were collected confounds worker, foster parent and child reports. Since both foster parent and child were present when the Assessment and Action Record was completed, it is not surprising to find high agreement between raters on most of our measures. Particularly since some studies have noted differences in how foster parents and teachers assess outcomes in children in care (Rosenthal and Curiel, 2006; Shore, Sim, Le Prohn, & Keller, 2002), it is important to incorporate multi-informant data in future research.

Lastly, our sample was limited in that only data from 12 agencies was included. This precluded us from examining agency-level effects in our model. Particularly since associations between agency-specific effects and child outcomes have been noted in previous studies (e.g., Attar-Schwartz, 2008) an important next step is to incorporate these effects when examining children’s externalizing behaviors. By examining the simultaneous effects of agencies, workers, foster families and children, an understanding of how these difference influences affect child externalizing can be examined.

**Implications for Practice**

Taken together, current results suggest that contextual factors play an important role during the development of externalizing behaviors in children in care. This has important implications for practice and policy development as it provides preliminary support for interventions and policies that target worker and foster family effects. Although child-specific effects remain the largest, current findings also suggest that interventions and policies that target worker and foster family-wide processes may have a noticeable impact on child externalizing since approximately 30% of the variance in children’s externalizing behaviors. By examining the simultaneous effects of agencies, workers, foster families and children, an understanding of how these difference influences affect child externalizing can be examined.

We have also identified two possible family-level processes that may improve child externalizing outcomes if targeted during intervention. Both family average of placement satisfaction and ambient parental negativity were associated with children’s externalizing behaviors. These observations suggest that interventions that improve placement satisfaction and reduce ambient parental negativity may contribute to improved externalizing outcomes in children. More importantly, placement satisfaction appears to operate on children’s externalizing behaviors as a family-level process and affects all children within the family. This suggests that effective interventions and policies may involve targeting the family as a whole rather than individual children within the family. Future research will be required to substantiate these possibilities.

In sum, multi-level modeling is an innovative technique that can help us understand the influence of contextual factors on children’s externalizing behaviors. Current findings highlight the importance of worker and family effects when understanding externalizing behaviors in children in care. Not only does worker and foster family influences account for differences in children’s externalizing patterns, but these differences can be explained by worker education and family-level processes such as placement type, placement satisfaction and ambient parental negativity. More importantly, these associations have been found while accounting for child-specific effects.
Project Outcomes and Deliverables

Agency Presentations


Academic Publications


Conference Presentations


Other Deliverables


Knowledge Exchange

Knowledge dissemination will target three main audiences: front-line child welfare workers, child-welfare policy makers and academic researchers. The aim of knowledge dissemination is to foster collaboration between academia and the child-welfare sector in the interpretation and integration of current findings into practice. The process of knowledge dissemination will be done in partnership with the child-welfare sector, involving organizations such as the Ontario Association for Children Aid Societies (OACAS) and the Child Welfare Institute of the Children’s Aid Society of Toronto (CAST). The primary role of these organizations will be to support the process of knowledge dissemination and to liaison between the primary researcher and other Children Aid Societies across Ontario.

Results from the current study challenge us to conceptualize children within an ecological framework by helping us understand how different worker and foster family effects operate to influence children’s externalizing behaviors. Considering that these results have broad implications for practice and policy development, special consideration will be placed on bridging research with practice. The aim is to help guide practice and policy development with knowledge that is generated from the current study. In the following sections, a detailed plan for knowledge dissemination along with deliverables will be discussed for each target audience.

Front-line Child Welfare Workers

Front-line child welfare workers are in a unique position to integrate research directly into practice. Results from the current study can be used to help guide child welfare workers when making important decisions concerning the care of children. For instance, understanding that some children are predisposed to more vulnerability (e.g., children from more negative families are more vulnerable to externalizing behaviors) can help child welfare workers make more informed decisions about foster care placements.

Presentations to front-line workers will highlight the role of family-level processes when understanding externalizing behaviors in children. There will be two sections to the presentation. The first section will discuss preliminary findings of the study followed by a brainstorming session as to how results can be integrated into practice. Special considerations while working with children who are in more vulnerable family situations and how results can be disseminated to other stakeholders will be discussed. Lastly, important research questions that can guide future research will also be examined.

A presentation by the principal investigator has been tentatively scheduled for early October, 2010. This event is hosted by the Child Welfare Institute of the Children’s Aid Society of Toronto. Based on attendance, additional seminars may be planned in the future. For those who are unable to attend, a summary of results will be made available to all Children’s Aid Societies across Ontario. This one-page handout will highlight the key findings of the study with a discussion on how it may impact on practice (refer to Appendix A).

Participation in this study has also helped some Children Aid Societies build their own capacity to work with their own OnLAC datasets. In some cases, the principal researcher has shared important resources (e.g., syntax to recode OnLAC variables) to help other Societies manage their OnLAC dataset. On occasion, the principal investigator has also provided consultation to some societies on data analysis and how the OnLAC dataset can be used to address specific research questions.
Child-welfare Policy Makers

Although current findings from the study represents a stepping stone towards understanding worker and family-level processes, current observations nevertheless raises important implications for policy development. Results from this study will be disseminated to management and senior management personnel through presentations to the Caring for Children and Youth Council and Executive Directors Zone Executive Group (regional representative group of executive directors). These presentations have been organized in partnership with OACAS and are tentatively scheduled for late September/early October, 2010. During these presentations, emphasis will be placed on how results can be used to help guide policy decisions. More importantly, discussions concerning integration of results into policy decision making and directions for future research will be facilitated at these presentations.

Academic Researchers

Lastly, results will be shared with the academic community through journal publications, and conference presentations. Currently, results are being prepared for submission to either a child welfare journal or a developmental psychology journal. Results have also been submitted as a poster presentation to the Society of Research in Child Development Biennial Meeting in Montreal, March 31-April 2, 2011.

Networking opportunities with other researchers in child welfare has also fostered new partnerships and collaborations. This has helped the principal investigator build her community of practice. Existing partnerships include, but not limited to Chatham-Kent Children’s Services, Qnet, and the Faculty of Social Work at the University of Toronto.

All materials related to the study that have been distributed (e.g., recruitment package) acknowledge the Provincial Centre of Excellence in Child and Youth Mental Health at CHEO as the principal funder. Moreover, in all presentations, the Provincial Centre of Excellence in Child and Youth Mental Health at CHEO has been acknowledged on a separate acknowledgements slide. Acknowledgement to The Provincial Centre of Excellence will continue as results stemming from this project are presented.
Future Career Plans

One of my career objectives is to integrate what is known about child development and child psychopathology to child welfare practice and service delivery. Specifically, I aim to integrate research methodology drawn across multiple disciplines (e.g., developmental psychology, epidemiology and social work) to child welfare research. My goal is to contribute to a child-welfare knowledge base that can be used to inform funding and policy decisions, intervention and program development and service delivery in the child-welfare sector.

The opportunity to work with the OnLAC dataset under the mentorship of Dr. Jenny Jenkins and Dr. Deborah Goodman has helped me develop an understanding of how large datasets can be utilized for research. This experience has helped me develop invaluable skills such as dataset management, variable construction, imputation of missing data and interpretation of multilevel data. I was also given the opportunity to build my community of practice by establishing important partnerships with various organizations and researchers across Ontario.

Results from the current study illustrate the utility of the OnLAC dataset in helping us understand child outcomes in children in care. Not only does it provide us with cross-sectional data, but tracks children in care over time. Thus, this dataset can help us understand how developmental processes and patterns in children and youth in child welfare change over time. I am hoping to continue to collaborate with other child-welfare agencies and examine child outcomes from a longitudinal perspective with the OnLAC data.

To date, I will continue developing my skills in multi-level modeling and other advanced statistical modeling tools under the mentorship of Dr. Jenny Jenkins. However, my long-term goal is to eventually conduct my research in an applied setting. This will give me more opportunities to disseminate empirical research to the field so that this knowledge can be used to guide practice and policy development. Moreover, I can also champion the importance of research and help build research capacity within an agency.
References


Appendix A
Presentation Handout

Children receiving out-of-home care show increased problems on a range of behaviors including externalizing behaviors. Despite a strong association between child externalizing and the experience of out-of-home care, there is large individual variation. Some of this increased risk may be associated with child-specific characteristics (e.g., age, gender) and some related to the context in which children live (e.g., biological relatedness to caregiver). Children in care face a unique set of circumstances where provision of care is directly affected by workers and foster parents. Therefore, children’s development may be influenced by the worker who oversees their care and the foster family in which they live. The current study utilizes a sibling design to examine whether children’s externalizing behaviors can be explained by differences between workers and foster families. We also examined the extent to which these processes can be explained by worker education, type of foster care placement, placement satisfaction and parental negativity. The Assessment and Action Record (AAR) data from the Ontario Looking after Children project (OnLAC) collected in 2007-2008 were analyzed. The sample included data from 1,160 children between 10-17 years of age ($M$ age =13 years, 8 months). Multiple informants (children, foster parents and workers) contributed to the measurement of most constructs.

1. **Worker, Foster Family- and Child-specific Effects.** Worker, foster family and child-specific effects explained why children showed different patterns of externalizing patterns. Specifically, differences between workers, foster families and children explained 9%, 21%, and 70% of the variance seen in children’s externalizing scores respectively (refer to Figure 1).

![Pie Chart](image-url)

**Figure 1:** Worker, foster family and child-specific effects on externalizing behaviors in child in care

2. **Worker Education.** Workers with less education were more likely to work with children with higher levels of externalizing behaviors.

3. **Type of Foster Care Placement.** Relative to children from regular foster care placements, children from kinship care displayed lower levels of externalizing behaviors and children from group care showed higher levels.

This research is supported by a post doctoral fellowship awarded to Connie Cheung from the Provincial Centre of Excellence for Child and Youth Mental Health at CHEO. We thank the children, foster families, workers and Children Aid Societies who volunteered their time to assist with this study.
4. Group home placement of children is associated with lower worker education and the effect of worker education on children’s externalizing is partially mediated by group home placement.

5. **Satisfaction with Foster Care Placement.** The average level of satisfaction with foster care placement across the foster children within the family explained differences between foster families in the average level of children’s externalizing behaviors. When children were more satisfied with their placement, they showed less externalizing behavior. We distinguished between the satisfaction of an individual child and the satisfaction of all foster children in the family and the latter measure predicted children's problems more strongly. This suggests that satisfaction with foster care placement is something that is shared between siblings and thus can be viewed as a family-wide process.

![Figure 2: Amount of family-level variance explained by family average of placement satisfaction](image)

6. **Parental Negativity.** Ambient parental negativity, or the family average of child externalizing, was found to explain why children from the same foster family showed different levels of externalizing behaviors. After accounting for children’s own individual experience of parental negativity, higher levels of externalizing behaviors were associated with parents being negative to all children. Again, this suggests a family-wide process.

In summary, although children’s externalizing behaviors are mainly attributable to child-specific effects (70%), children did cluster as a function of worker (9%) and foster family effects (21%). Worker education accounted for some differences seen between workers (i.e., 11% of the variance at the worker level). Those with less formal education were more likely to work with more difficult children. This association is partially explained by group care. A disproportionate number of workers with lower formal education work with children who are placed in group care settings. Family-wide processes were also found to be associated with children’s externalizing behaviors. After accounting for children’s own unique experiences, foster families who had children who were less satisfied with their placement and those who displayed a higher average of parental negativity were also more likely to care for children with higher levels of externalizing problems. These family-wide processes explained between-family differences in children’s externalizing behaviors. Although it is difficult to distinguish between assignment (some workers/foster families may be assigned more or less difficult children) and causal influences (workers/foster parents change children’s behavior), results suggest either that some workers are unfairly burdened or that workers vary in their efficacy in dealing with children. Future research is required to differentiate between these different directions of effect.